

I CLAIM:

1. A method for driving an electric percussion tool, said electric percussion tool including a solenoid, a plunger core slidably received in said solenoid, and a spring member, said method

5 comprising:

energizing said solenoid to apply an electromagnetic force to said plunger core and to force said plunger core to move in a driving direction, and

applying a spring biasing force of said spring member against
10 said plunger core to further force said plunger core to move in a driving direction in addition to said electromagnetic force of said solenoid.

2. A method for driving an electric percussion tool, said electric percussion tool including a solenoid having a first end and a
15 second end and a middle portion, a plunger core partially engaged in said first end of said solenoid, and a spring member, said method comprising:

energizing said solenoid to draw said plunger core from said first end of said solenoid toward said middle portion of said
20 solenoid,

de-energizing said solenoid, to allow said plunger core to move from said middle portion of said solenoid toward said second end of said solenoid with a moment of inertia of said plunger core,

energizing said solenoid again to draw said plunger core from
25 said second end of said solenoid toward said middle portion of said solenoid, and

applying a spring biasing force of said spring member against

said plunger core to force said plunger core to move in a driving direction in addition to said solenoid.

3. The method for driving electric percussion tools as claimed in claim 2 further comprising de-energizing said solenoid again, to
5 allow said plunger core to move from said middle portion of said solenoid toward said first end of said solenoid with a moment of inertia of said plunger core.

4. The method for driving electric percussion tools as claimed in claim 2 further comprising spacing said spring member away
10 from said solenoid to allow said plunger core to move outwardly beyond said second end of said solenoid when said plunger core is forced against said spring member.

5. The method for driving electric percussion tools as claimed in claim 4, wherein said solenoid is energized again to draw said
15 plunger core from said second end of said solenoid toward said middle portion of said solenoid when said plunger core is forced to move partially into said second end of said solenoid by said spring member.